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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,712	04/18/2005	Hideo Arakawa	05258/LH	1473

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EXAMINER	
MAYO III, WILLIAM H	
ART UNIT	**PAPER NUMBER**
2831	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/531,712	ARAKAWA, HIDEO	
	Examiner	Art Unit	
	William H. Mayo III	2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 6-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 6-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 April 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/18 and 10/31/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in PCT Application No. PCT/JP03/13374, filed on October 20, 2003.

2. Acknowledgment is made of applicant's claim for domestic priority under 35 U.S.C. 120. The 371 PCT Application Number PCTO, being filed on PCT/JP03/13374, filed on October 20, 2003.

Information Disclosure Statement

3. The information disclosure statement filed April 18 and October 31, 2005 has been submitted for consideration by the Office. It has been placed in the application file and the information referred to therein has been considered.

Drawings

4. The drawings are objected to because Figures 2, 16, and 18 lack the proper cross-hatching, which indicates the type of materials, which may be in an invention. Specifically, the cross hatching to indicate the insulation and conductor materials is improper. The applicant should refer to MPEP Section 608.02 for the proper cross-hatching of materials. Correction is required.

In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 16-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claims 16-19 recites the limitation "An electrical apparatus suspending unit" in line 1, which is confusing and renders the claim indefinite. Claim 1, from which claim 16 depends doesn't mention an electrical apparatus suspending unit applicant and therefore the metes and bounds of the claim 16 cannot be determined. The applicant should proofread the claim and change the dependency to reflect the correct depended claim.

Treatment of Claims

8. The examiner assumes that the applicant intends to have claims 16-19 depend upon claim 6, which states "An electrical apparatus suspending unit" in the preamble.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Pitts, Jr. (Pat Num 4,077,022). Pitts discloses a power supply cable (Figs 1-3, Col 1, lines 29-38), for the purpose of supplying signals and power to submerged tools (Col 1, lines 40-46). Specifically, with respect to claim 1, Pitts discloses a cable (25, Fig 3) comprising a core wire (28) comprising stranded wires made of copper alloy (Col 2, lines 60-65), which inherently has high strength and high conductivity (i.e. prior art discloses a copper alloy as claimed and therefore must exhibit the same characteristics as the claimed invention), an insulating layer (30) covering the core wires (28), an outer layer (47) comprising stranded wires which are made of nonmagnetic metal (i.e. steel wires, Col 3, lines 1-5) and cover the insulating layer (Fig 3).

11. Claims 10-11 and 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by JP Pat Num 62-66553 (herein referred to as JP). JP discloses an wire grip (Figs 1-6). Specifically, with respect to claim 1, JP discloses a wire grip (Fig 1-3)

comprising an inner sleeve (16) having a wire insertion bore (18) for inserting a wire (6), a plurality of ball set bores (19) opened at both of the wire insertion bores (18) and an outer surface of the inner sleeve (16) and a tapered outer surface which is formed at the portion where the said ball set bores (19) are formed (Fig 1), a plurality of balls (15) received in the ball set bores (19) and protruding partially into the wire insertion bore (18) so as to be pressed to the wire (6, Fig 3), an outer sleeve (13) having a tapered inner surface which is contacted with the tapered outer surface of the inner sleeve (16) to as to press the balls inwardly (Fig 1) and a spring (17) for biasing the inner sleeve (16) with respect to the outer sleeve (13) in the direction in which the tapered outer surface is tapered down (Fig 1), wherein each of the inner sleeve (16) and outer sleeve (13) has a slotted groove (at 12) communicated with the wire insertion bore (18) and the wire grip (Fig 1) further comprising a jig (10) by which the wire (6) is pushed into the slotted grooves (Fig 4). With respect to claim 11, JP discloses that the jig (10) comprises a sleeve pressing portion (7) for pressing the inner sleeve (16) in an opposed direction to a biasing direction of the spring (17) and a strip portion (10c and 10b) extending from the sleeve pressing portion (7) capable of pushing the wire (7) into the slotted grooves (Fig 1). With respect to claim 14, JP discloses a wire grip (Fig 1-3) comprising an inner sleeve (16) having a wire insertion bore (18) for inserting a wire (6), a plurality of ball set bores (19) opened at both of the wire insertion bores (18) and an outer surface of the inner sleeve (16) and a tapered outer surface which is formed at the portion where the said ball set bores (19) are formed (Fig 1), a plurality of balls (15) received in the ball set bores (19) and protruding partially into the wire insertion bore

(18) so as to be pressed to the wire (6, Fig 3), an outer sleeve (13) having a tapered inner surface which is contacted with the tapered outer surface of the inner sleeve (16) to as to press the balls inwardly (Fig 1) and a spring (17) for biasing the inner sleeve (16) with respect to the outer sleeve (13) in the direction in which the tapered outer surface is tapered down (Fig 1), wherein the balls (15) are made of electrical insulating material (Page 7). With respect to claim 15, JP discloses that the balls (15) are made of ceramics (Page 7).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pitts, Jr. (Pat Num 4,077,022) in view of Bridges (Pat Num 4,250,351). Pitts discloses a power supply cable (Figs 1-3, Col 1, lines 29-38), for the purpose of supplying signals and power to submerged tools (Col 1, lines 40-46), as disclosed above with reference to claim 1.

However, Pitts doesn't necessarily disclose the wire comprising an outermost insulating layer covering the outer layer (claim 2).

Bridges discloses a power supply cable (Fig 1), for the purpose of supplying signals and power to submerged tools (Col 1, lines 35-47), comprising a cable (Fig 1) comprising a core wire (12) comprising stranded wires made of copper (Col 2, lines 54-58), an insulating layer (14) covering the core wires (12), an outer layer (24 & 26) comprising stranded wires which are made of nonmagnetic metal (i.e. steel wires, Col 3, lines 1-6) and covering the insulating layer (14), wherein the outer layer (24 & 26) is surrounded by an outermost insulating layer (28), for the purpose of providing a water tight seal (Col 2, lines 42-45) and protecting the interior components from rucking and separating from stresses that may happen due to reeling of the cable (Col 3, lines 6-15).

With respect to claim 2, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the wire of Pitts. Jr to comprise the outermost insulating layer configuration as taught by Bridges because Bridges teaches that such a configuration provides a water tight seal (Col 2, lines 42-45) and protects the interior components from rucking and separating from stresses that may happen due to reeling of the cable (Col 3, lines 6-15).

16. Claims 6-9 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arakawa (JP Pat Num 11-113702 A) in view of JP Num 60-153432, herein referred to as JP2). Arakawa discloses an electrical apparatus suspension unit (Figs 1-4), which facilitates the hanging operation of an article without damaging beauty (abstract). Specifically, with respect to claim 6, Arakawa discloses an electrical apparatus suspension unit (Figs 1-4) comprising a plurality of power supply wires (1) comprising a core wire (1a) comprising stranded wires (Fig 1) and an insulating layer (1b) covering the core wire (1a), a lower holder (6) for gripping the lower end portion of each power supply wire (1, Fig 3) and being coupled to each of the hung members (7) of the electrical apparatus (i.e. alarm, abstract) and an upper holder (5) for gripping an upper end portion of each power supply wire (1, Fig 2). With respect to claim 7, Arakawa discloses at least two of the plurality of power supply wires (1) being connected such that upper ends and lower ends of the core wires (1a) are connected to a terminal (2) of the electrical apparatus (7) and a power line (not shown). With respect to claim 8, Arakawa discloses that the unit (Figs 1-4) wherein the power supply wires (1) comprises an outermost insulating layer (1d). With respect to claim 9, Arakawa discloses that the

power supply wires (1) are connected to upper ends and lower ends of the core wire (1a) and an outer layer thereof are connected to a terminal (3) of the electrical apparatus (i.e. alarm) and power line (not shown). With respect to claim 16, Arakawa discloses that the power supply wires (1) further comprise an outer layer (1c) comprising stranded wires (Fig 1) and covering the insulating layer (1d). With respect to claim 17, Arakawa discloses that at least two of the plurality of power supply wires (1) being connected such that upper ends and lower ends of the core wires (1a) are connected to a terminal (2) of the electrical apparatus (7) and a power line (not shown). With respect to claim 18, Arakawa discloses that the unit (Figs 1-4) wherein the power supply wires (1) comprises an outermost insulating layer (1d). With respect to claim 19, Arakawa discloses that the power supply wires (1) are connected to upper ends and lower ends of the core wire (1a) and an outer layer thereof are connected to a terminal (3) of the electrical apparatus (i.e. alarm) and power line (not shown).

However, Arakawa doesn't necessarily disclose the core wires being made of copper alloy wires (claim 6), nor the outer layer being made of non magnetic metal covering (claim 16).

JP2 teaches an electrical apparatus suspension unit (Figs 1-2), which facilitates the hanging operation of an article (abstract). Specifically, with respect to claims 6 & 16, JP2 teaches a power supply wire (Fig 2) comprising a core wire (10) comprising a plurality of strands, which are made of copper alloy wires (Page 2) and an outer layer (8) comprising a plurality of strands, which are made of a non magnetic material, such

as steel, both of which JP2 teaches is well known in the art for providing excellent current flow characteristics (i.e. copper) and having superior tension strength (i.e. steel).

With respect to claims 6 & 16, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the wire of Arakawa to comprise the inner core strands being made of copper alloy and the outer layer being made of steel configuration as taught by JP2 because JP2 teaches that such materials are well known in the art for providing excellent current flow characteristics (i.e. copper) and having superior tension strength (i.e. steel) and since it has been held to be within general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

17. Claims 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by JP Pat Num 62-66553 (herein referred to as JP) in view of Pitts, Jr (Pat Num 4,077,022). JP discloses a method of suspending an electrical apparatus (Figs 1-6). Specifically, with respect to claim 12, JP discloses a method wherein a power supply wire (6) comprises a plurality of stranded wires (Fig 1), wherein the electrical apparatus (8) is securely held to the wire (6) by using a wire grip (Fig 1), wherein the wire grip comprises an inner sleeve (16) having a wire insertion bore (18) for inserting a wire (6), a plurality of ball set bores (19) opened at both of the wire insertion bores (18) and an outer surface of the inner sleeve (16) and a tapered outer surface which is formed at the portion where the said ball set bores (19) are formed (Fig 1), a plurality of balls (15) received in the ball set bores (19) and protruding partially into the wire insertion bore (18) so as to be pressed

to the wire (6, Fig 3), an outer sleeve (13) having a tapered inner surface which is contacted with the tapered outer surface of the inner sleeve (16) to as to press the balls inwardly (Fig 1) and a spring (17) for biasing the inner sleeve (16) with respect to the outer sleeve (13) in the direction in which the tapered outer surface is tapered down (Fig 1), wherein each of the inner sleeve (16) and outer sleeve (13) has a slotted groove (at 12) communicated with the wire insertion bore (18) and the wire grip (Fig 1) further comprising a jig (10) by which the wire (6) is pushed into the slotted grooves (Fig 4). With respect to claim 13, JP discloses that wire (6) is cut at a desirable length (Fig 2), wherein the an outer layer is slide from an end of the wire (6), to expose the wire (6), and connecting the core wire (6) to a terminal (3) of the electrical apparatus and pushing the slid outer layer into the slotted grooves (at 12).

However, JP doesn't necessarily disclose the core wire a core wire comprising stranded wires made of copper alloy, an insulating layer covering the core wires, an outer layer comprising stranded wires which are made of nonmagnetic metal and cover the insulating layer (claim 12).

Pitts discloses a power supply cable (Figs 1-3, Col 1, lines 29-38), for the purpose of supplying signals and power to submerged tools (Col 1, lines 40-46). Specifically, with respect to claim 12, Pitts discloses a cable (25, Fig 3) comprising a core wire (28) comprising stranded wires made of copper alloy (Col 2, lines 60-65), which inherently has high strength and high conductivity (i.e. prior art discloses a copper alloy as claimed and therefore must exhibit the same characteristics as the claimed invention), an insulating layer (30) covering the core wires (28), an outer layer (47)

comprising stranded wires which are made of nonmagnetic metal (i.e. steel wires, Col 3, lines 1-5) and cover the insulating layer (Fig 3).

With respect to claim 12, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the power wire of JP to comprise the power wire configuration as taught by Pitts because Pitts teaches that such a configuration is commonly utilized as an hanging and power wire for the purpose of supplying signals and power to submerged tools (Col 1, lines 40-46).

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Mancewicz et al (Pat Num 4,898,046), Kikuchi et al (Pat Num 3,980,808), Bowers (Pat Num 3,259,675), Orlet et al (Pat Num 6,960,724), Malneritch et al (Pat Num 2,953,627), Eberline (Pat Num 3,773,109), Whitfill, Jr (Pat Num 3,784,732), Coleman (Pat Num 3,634,607), Ferer (Pat Num 4,317,000), and Ollis (Pat Num 4,033,800), all of which discloses various cable configurations.

Communication

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

William H. Mayo III
Primary Examiner
Art Unit 2831

WHM III
March 15, 2007